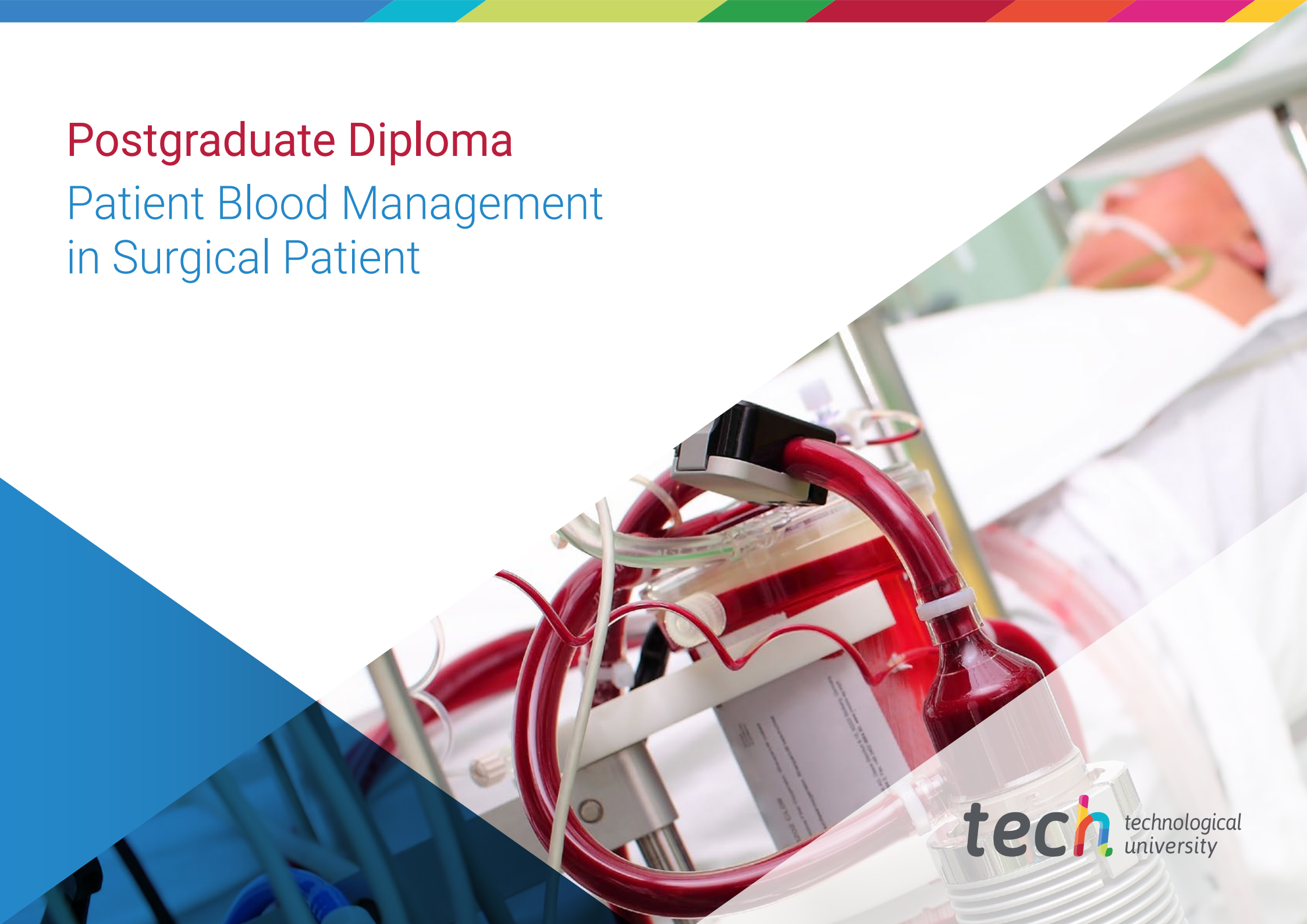
Postgraduate Diploma

Patient Blood Management in Surgical Patient



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Postgraduate Diploma

Patient Blood Management in Surgical Patient

Course Modality: **Online**
Duration: **6 months.**
Certificate: **TECH Technological University**
Official Nº of hours: **450 h.**
Website: **www.techtitute.com/in/medicine/postgraduate-diploma/postgraduate-diploma-patient-blood-management-surgical-patient**

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01

Introduction

Blood transfusion has a series of risks and possible complications that can influence patient morbimortality, so it is necessary to define strategies to minimize the use of blood components, as well as the implementation of hospital circuits for the early detection of preoperative anemia, one of the most common mortality risks in surgical patients. In addition, various acute bleeding situations may occur in the operating room, so it is necessary for the professional to know the factors involved in hemostasis and its monitoring. Likewise, the student in this program will study in depth the intraoperative methods and techniques that contribute to blood saving, which can be applied to all intraoperative situations or have specific considerations in some surgical specialties.

With this Postgraduate Diploma in Patient Blood Management in Surgical Patients, you will delve into the intraoperative techniques that contribute to blood saving and the improvement of critical patients"

Preoperative anemia is a known independent risk factor for morbidity and mortality in surgical patients, so it is necessary to implement hospital circuits for its early detection prior to the scheduling of surgery. In this way, strategies for improving red blood cell mass can be applied early without causing unnecessary delays in the scheduling of surgery, in addition to being able to identify other factors that may favor bleeding complications, such as anticoagulation and antiplatelet therapy.

On the other hand, different situations may arise in the operating room: scheduled and well optimized patients or urgent surgeries, in both situations acute bleeding may occur or be the main cause of the surgery. Hence the importance of knowing the different factors involved in hemostasis and their monitoring, since with the appropriate knowledge, specific and early treatment will be carried out. In the same way, it is important to understand in depth the different intraoperative methods and techniques that contribute to blood saving, which can be applied to all intraoperative situations or have specific considerations in some surgical specialties. Finally, if a transfusion is to be performed, the transfusion indications and thresholds must be taken into account in order to reduce the risks and complications involved.

It is also important to know the approach and patient care with the Patient Blood Management approach, which is dynamic and continuous among its three pillars, so this program will specify the particularities in the pathophysiology of anemia and changes in the mechanism of hemostasis of the critically ill patient, in addition to the importance of techniques to optimize tolerance to anemia and reduce oxygen consumption needs. Also, decrease blood loss and proper management of antithrombotic therapies.

All in all, it is a 100% online Postgraduate Diploma, so the student has the ease of being able to study it comfortably, wherever and whenever they want. All you need is a device with internet access to take your career one step further. A modality in line with the current times with all the guarantees to position the medical professional in a highly demanded field.

This **Postgraduate Diploma in Patient Blood Management in Surgical Patient** contains the most complete and up-to-date scientific program on the market. The most important features include:

- The development of case studies presented by experts in transfusion medicine and Patient Blood Management
- The graphic, schematic, and practical contents with which they are created, provide scientific and practical information on the disciplines that are essential for professional development
- Practical exercises where self assessment can be used to improve learning
- With a special emphasis on evidence-based medicine and research methodologies in the field of transfusion medicine
- Theoretical lessons, questions to the expert, debate forums on controversial topics, and individual reflection assignments
- Content that is accessible from any device with an Internet connection

You will learn the particularities in the pathophysiology of anemia and the changes in the mechanism of hemostasis in the critically ill patient with the best professionals"

In this Postgraduate Diploma you will learn the best practices in the transfusion of blood components and the latest blood saving strategies to meet the needs of the critically ill patient"

The ability to evaluate the patient's preoperative environment will be one of your objectives, in terms of the patient's treatments and pathologies that may increase bleeding complications in surgery.

You will learn about the different methods to reduce intraoperative bleeding together with prestigious experts in this medical field.

The program's teaching staff includes professionals from the sector who contribute their work experience to this program, as well as renowned specialists from leading societies and prestigious universities.

Its multimedia content, developed with the latest educational technology, will provide the professional with situated and contextual learning, i.e., a simulated environment that will provide immersive education programmed to learn in real situations.

This program is designed around Problem-Based Learning, whereby the professional must try to solve the different professional practice situations that arise throughout the program. For this purpose, the professional will be assisted by an innovative interactive video system created by renowned and experienced experts.

02

Objectives

The purpose of this Postgraduate Diploma program is for the student to achieve the proposed objectives, in order to expand their knowledge in Transfusion Medicine and enhance Patient Blood Management in Surgical Patients through the learning and development of the different skills necessary for good medical practice. To this end, a team of medical professionals has poured its knowledge and experience in the development of the points of this curriculum, which will drive the professional from a complete perspective and a current approach, with comprehensive preparation for the achievement of their professional goal, guiding them towards excellence in their daily medical work.

You will explore strategies for increasing red blood cell mass in patients who will undergo surgery with a high risk of hemorrhage"

General Objectives

- Know everything about the process of blood donation and blood components
- Understand hemovigilance as a transversal process involving the entire transfusion chain, from donor to patient

You will master the recommended guidelines for the management of anticoagulation and thromboprophylaxis in surgical patients"

Specific Objectives

Module 1. Strategies for Blood Saving in the Preoperative Setting

- Acquire in depth knowledge of the recommended preoperative evaluation of the patient, in terms of the patient's treatments and pathologies that may increase bleeding complications in surgery
- Explore strategies for increasing red blood cell mass, especially in patients who will undergo surgery with a high bleeding risk

Module 2. Strategies for Blood Saving in the Intraoperative Setting

- Acquire in depth knowledge of the different methods to reduce intraoperative bleeding and the main indications and thresholds for blood transfusion

Module 3. Strategies for blood saving in the postoperative setting and the patient

- Explore in the best practices in blood component transfusion and blood-saving strategies in response to the needs of the critically ill patient
- Acquire in depth knowledge of the recommended guidelines for the management of anticoagulation and thromboprophylaxis in these patients

03

Course Management

In its maxim of offering an elite education for all, TECH puts at your disposal renowned professionals so that the medical professional acquires a solid knowledge in the specialty of Transfusion Medicine focused on Patient Blood Management in Surgical Patients, guided by experts in the field. For this reason, this Postgraduate Diploma has a team of highly qualified teachers, whose extensive experience in this medical field contributes to the quality of the program, thus providing students with the best tools for the development of their skills during the course. In this way, the professional has the guarantees he/she demands to specialize with the best and boost his/her academic career towardsa highly demanded specialized sector.

Opt for this Postgraduate Diploma and acquire the skills you need to succeed in Patient Blood Management in Surgical Patients"

Management

Dr. Alcaraz Rubio, Jesús

- Head of the Hematology Department at the 12 de Octubre Hospital (Madrid)
- Head of the Hematology Department at Mesa del Castillo Hospital, in Murcia
- Head of the Oncohematological Day Unit Hospital Viamed in Alcantarilla, Murcia
- Emergency Specialist at the Rafael Méndez Hospital, in Lorca, Murcia
- Head of the Hematology Department at the Hospital Virgen de la Caridad in Cartagena
- Member of Sermo's Medical Advisory Board
- Associate Professor of Emergency and Clinical Simulation at the Universidad Católica San Antonio in Murcia
- Degree in Medicine and Surgery from the University of Murcia
- Specialty in Hematology Hemotherapy

Professors

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- Specialty in Urology at Morales Meseguer University Hospital

04

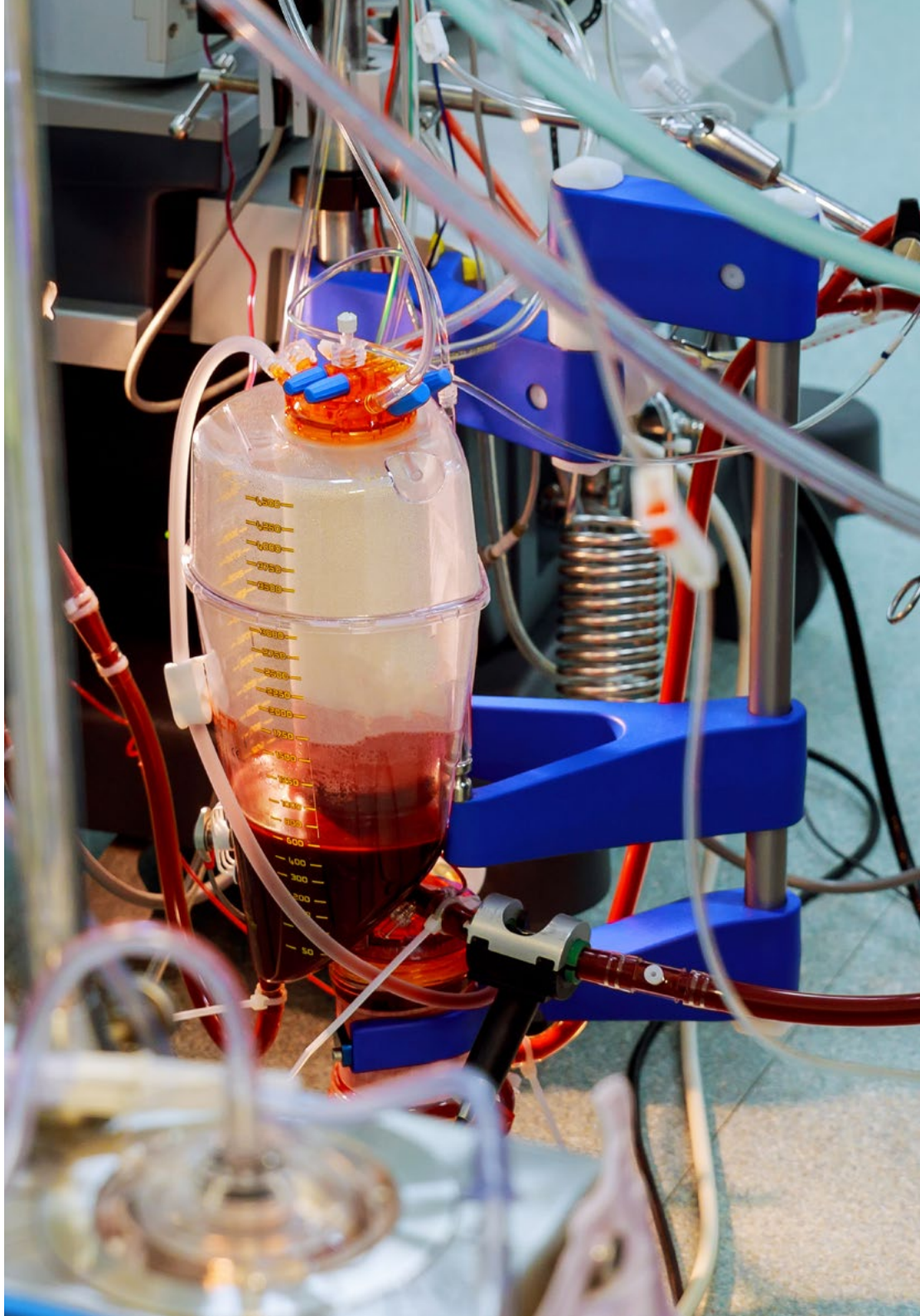
Structure and Content

The structure of the contents of this Postgraduate Diploma has been designed based on the requirements of Transfusion Medicine focused on Patient Blood Management in Surgical Patients, in order for the professional to deepen and update their knowledge in this medical field with success and rigor. Thus, aware of the relevance of the current situation of their specialization, the teachers of this program have developed a syllabus whose content offers a broad perspective of everything involved in the procedure of blood transfusion in these critical cases, from strategies for blood saving in the preoperative to the intraoperative and even postoperative period. Thus, the student will acquire the skills to develop professionally in this key area of medicine thanks to a complete program and the best teaching methodology.

You will master strategies for successful blood saving in different surgical settings, always attending to the needs of the critically ill patient"

Module 1. Strategies for Blood Saving in the Preoperative Setting

1.1. Preoperative Anemia
  1.1.1. Diagnostic Algorithm
1.2. Iron Deficiency Anemia
  1.2.1. Use of Intravenous Iron
1.3. Anemia in Oncology Patients
  1.3.1. Anemia Mechanisms
1.4. Erythropoietin
  1.4.1. Erythropoietin Indications
1.5. Hemorrhagic Risk Assessment
  1.5.1. Patient Factors
  1.5.2. Procedural Factors
1.6. Thrombotic Risk Assessment
  1.6.1. Patient Factors
  1.6.2. Procedural Factors
1.7. Bridge Therapy and Pre-Surgery Recommendations
  1.7.1. Dicoumarinics
  1.7.2. Direct Acting Anticoagulants
1.8. Preoperative Recommendations for Antiplatelet Therapy
  1.8.1. Low Hemorrhagic Risk Surgery
  1.8.2. High Hemorrhagic Risk Surgery
1.9. Preoperative Recommendations in Patients with Congenital Coagulopathies
  1.9.1. Low Hemorrhagic Risk Surgeries
  1.9.2. High Hemorrhagic Risk Surgeries
1.10. The Jehovah's Witness Patient
  1.10.1. Basics of Transfusion Rejection
  1.10.2. Conclusions



Module 2. Strategies for Blood Saving in the Intraoperative Setting

2.1. Identification and Monitoring of Intraoperative Hemostasis Disorders
2.2. Anesthetic and Surgical Techniques to Reduce Intraoperative Bleeding
  2.2.1. Intraoperative Fluid Therapy
2.3. Administration of Prohemostats
  2.3.1. Plasma and Platelet Administration
  2.3.2. Administration of Antifibrinolytics
  2.3.3. Fibrinogen and Cryoprecipitates
  2.3.4. Prothrombin Complex Concentrate
2.4. Autologous Transfusion Methods
  2.4.1. Acute Normovolemic Hemodilution
  2.4.2. Autologous Blood Transfusion
2.5. Intraoperative Blood Component Transfusion
  2.5.1. Transfusion Thresholds
2.6. Cardiac Surgery
  2.6.1. Fluid Therapy in Cardiac Surgery
  2.6.2. Transfusion Algorithms and Transfusion Thresholds
2.7. Paediatric and Obstetric Surgery
  2.7.1. Obstetric Hemorrhage
  2.7.2. Transfusion Recommendations for Neonates in the Intraoperative Setting
2.8. Orthopaedic Surgery and Traumatology
  2.8.1. Risks for Transfusion in Orthopedic Surgery Patient
2.9. Refusal of Allogeneic Blood Transfusion
  2.9.1. Alternatives to Allogeneic Blood Transfusion in Patients Refusing Transfusion
2.10. Acute Hemorrhage and Massive Transfusion
  2.10.1. Main Intraoperative Causes
  2.10.2. Strategies in Antiplatelet/Anticoagulated Patients and Emergency Surgery

Module 3. Blood-Saving Strategies in the Postoperative and Critical Care Setting

3.1. Mechanisms of Anemia in Critical Patients
  3.1.1. Etiopathogenesis
3.2. Mechanisms of Coagulopathy in Critical Patients
  3.2.1. Disseminated Intravascular Coagulation
3.3. Management of Anticoagulation and Antithrombotic Prophylaxis
  3.3.1. Thromboprophylaxis
  3.3.2. Anticoagulation
3.4. Early Diagnosis and Treatment of Infections
  3.4.1. Strategies for Early Diagnosis of Infections and Prevention of Sepsis
3.5. Optimization of Anemia Tolerance
  3.5.1. Use of Erythropoietic Agents in Critically Ill Patients
3.6. Transfusion Thresholds in Critically Ill Patients
  3.6.1. "Do-not-do" Practices in the Use of Blood Components
3.7. Controlled Hypotension
  3.7.1. Indications
  3.7.2. Physiological Response of the Organism
3.8. Gastrointestinal bleeding.
  3.8.1. Managing Hepatopathic Patients
  3.8.2. Gastrointestinal Bleeding Prophylaxis
3.9. Intracranial Hemorrhage Management
  3.9.1. Use of Prohemostatic Agents
3.10. Management and Indications of the Extracorporeal Membrane Oxygenation System (ECMO)
  3.10.1. Venoarterial ECMO
  3.10.2. Venovenous ECMO
  3.10.3. Transfusion Thresholds

05

Methodology

This academic program offers students a different way of learning. Our methodology uses a cyclical learning approach: **Relearning.**

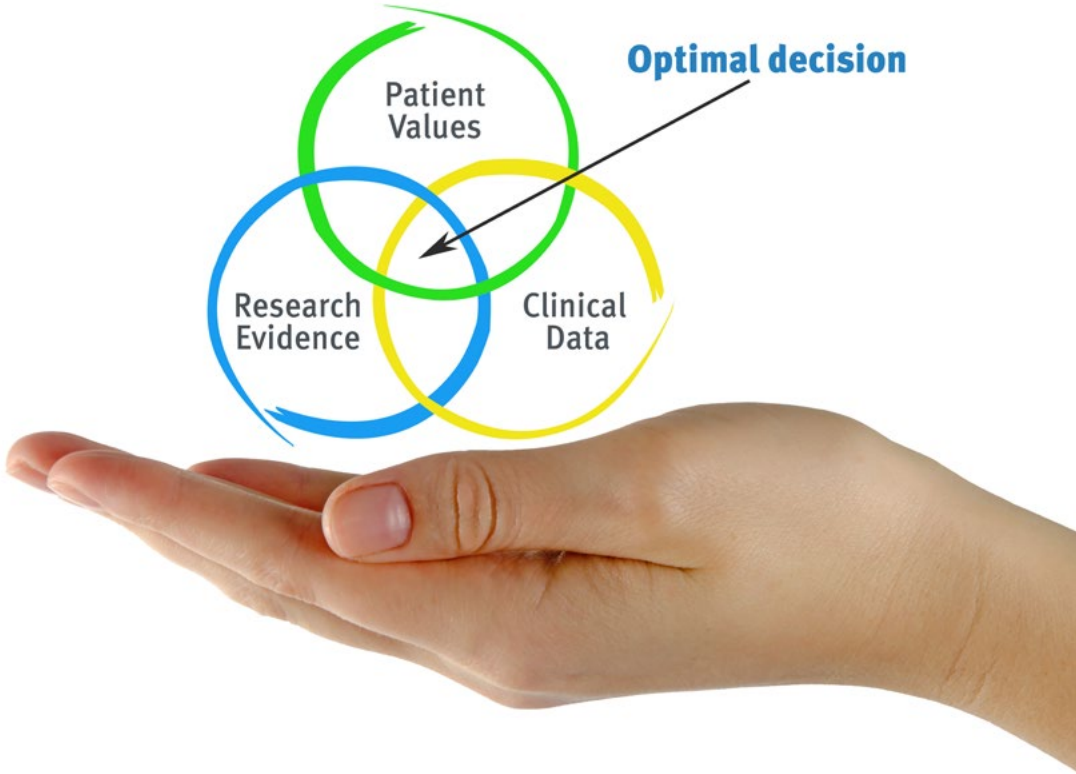
This teaching system is used, for example, in the most prestigious medical schools in the world, and major publications such as the **New England Journal of Medicine** have considered it to be one of the most effective.

Discover Relearning, a system that abandons conventional linear learning, to take you through cyclical teaching systems: a way of learning that has proven to be extremely effective, especially in subjects that require memorization"

At TECH we use the Case Method

What should a professional do in a given situation? Throughout the program, students will face multiple simulated clinical cases, based on real patients, in which they will have to do research, establish hypotheses, and ultimately resolve the situation. There is an abundance of scientific evidence on the effectiveness of the method. Specialists learn better, faster, and more sustainably over time.

With TECH you will experience a way of learning that is shaking the foundations of traditional universities around the world.



According to Dr. Gérvas, the clinical case is the annotated presentation of a patient, or group of patients, which becomes a "case", an example or model that illustrates some peculiar clinical component, either because of its teaching power or because of its uniqueness or rarity. It is essential that the case is based on current professional life, trying to recreate the real conditions in the physician's professional practice.

Did you know that this method was developed in 1912, at Harvard, for law students? The case method consisted of presenting students with real-life, complex situations for them to make decisions and justify their decisions on how to solve them. In 1924, Harvard adopted it as a standard teaching method"

The effectiveness of the method is justified by four fundamental achievements:

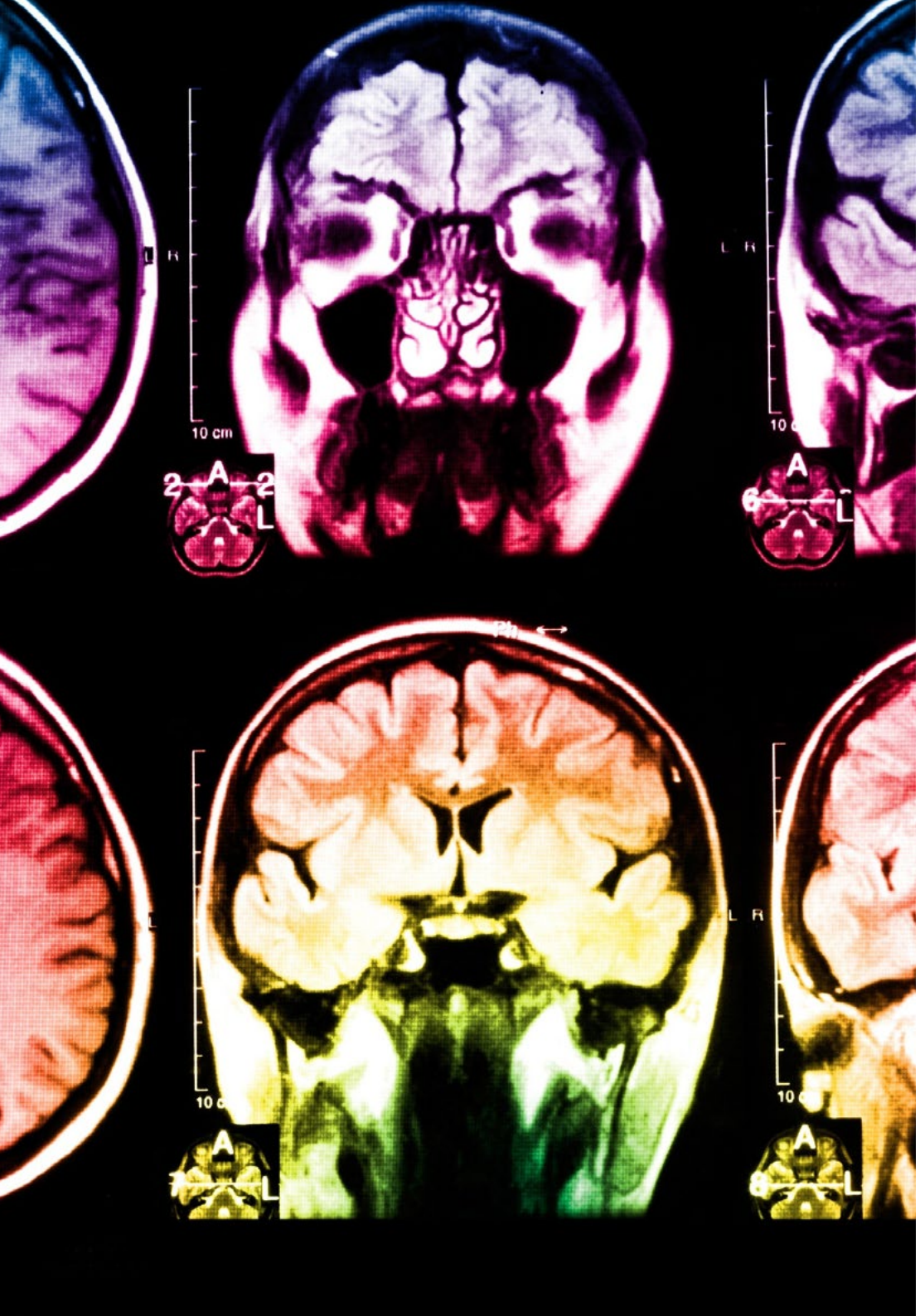
1. Students who follow this method not only achieve the assimilation of concepts, but also a development of their mental capacity, through exercises that evaluate real situations and the application of knowledge.
2. Learning is solidly translated into practical skills that allow the student to better integrate into the real world.
3. Ideas and concepts are understood more efficiently, given that the example situations are based on real-life.
4. Students like to feel that the effort they put into their studies is worthwhile. This then translates into a greater interest in learning and more time dedicated to working on the course.

Relearning Methodology

At TECH we enhance the case method with the best 100% online teaching methodology available: Relearning.

This university is the first in the world to combine the study of clinical cases with a 100% online learning system based on repetition, combining a minimum of 8 different elements in each lesson, a real revolution with respect to the mere study and analysis of cases.

Professionals will learn through real cases and by resolving complex situations in simulated learning environments. These simulations are developed using state-of-the-art software to facilitate immersive learning.



At the forefront of world teaching, the Relearning method has managed to improve the overall satisfaction levels of professionals who complete their studies, with respect to the quality indicators of the best online university (Columbia University).

With this methodology, more than 250,000 physicians have been trained with unprecedented success in all clinical specialties regardless of surgical load. Our pedagogical methodology is developed in a highly competitive environment, with a university student body with a strong socioeconomic profile and an average age of 43.5 years old.

Relearning will allow you to learn with less effort and better performance, involving you more in your specialization, developing a critical mindset, defending arguments, and contrasting opinions: a direct equation to success.

In our program, learning is not a linear process, but rather a spiral (learn, unlearn, forget, and re-learn). Therefore, we combine each of these elements concentrically.

The overall score obtained by TECH's learning system is 8.01, according to the highest international standards.

This program offers the best educational material, prepared with professionals in mind:

Study Material

All teaching material is produced by the specialists who teach the course, specifically for the course, so that the teaching content is highly specific and precise.

These contents are then applied to the audiovisual format, to create the TECH online working method. All this, with the latest techniques that offer high quality pieces in each and every one of the materials that are made available to the student.

Surgical Techniques and Procedures on Video

TECH introduces students to the latest techniques, the latest educational advances and to the forefront of current medical techniques. All of this in direct contact with students and explained in detail so as to aid their assimilation and understanding. And best of all, you can watch the videos as many times as you like.

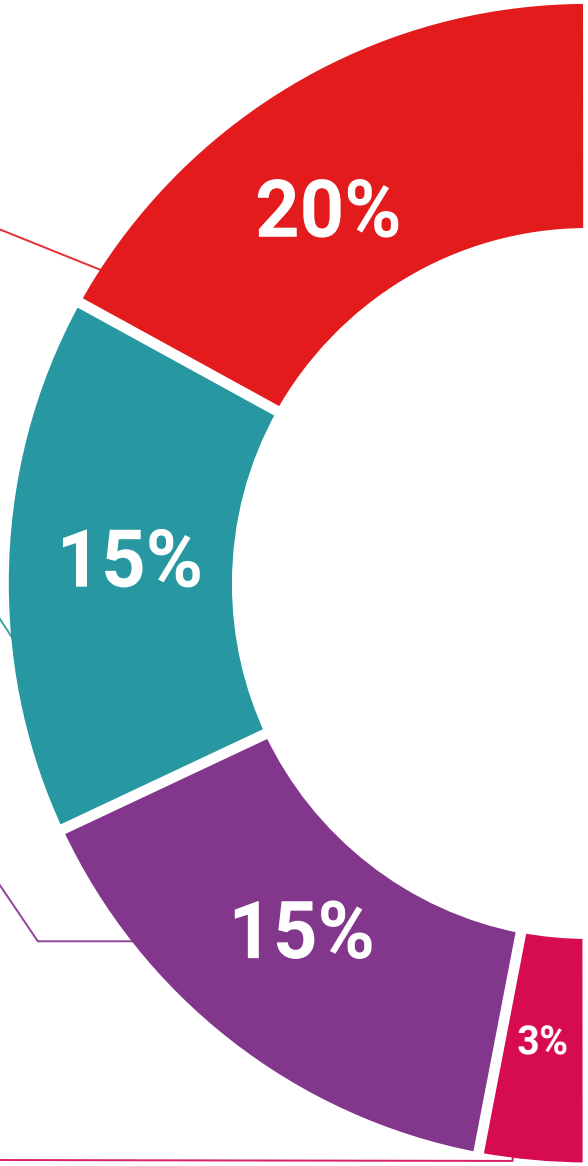
Interactive Summaries

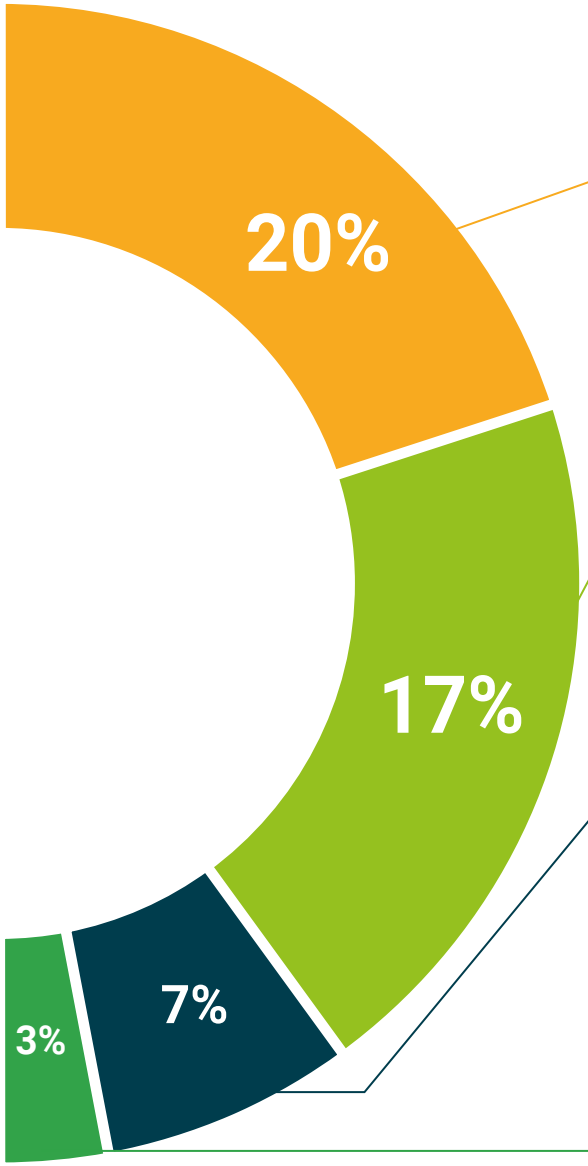
The TECH team presents the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

This exclusive educational system for presenting multimedia content was awarded by Microsoft as a "European Success Story".

Additional Reading

Recent articles, consensus documents and international guidelines, among others. In TECH's virtual library, students will have access to everything they need to complete their course.





Expert-Led Case Studies and Case Analysis

Effective learning ought to be contextual. Therefore, TECH presents real cases in which the expert will guide students, focusing on and solving the different situations: a clear and direct way to achieve the highest degree of understanding.

Testing & Retesting

We periodically evaluate and re-evaluate students' knowledge throughout the program, through assessment and self-assessment activities and exercises, so that they can see how they are achieving their goals.

Classes

There is scientific evidence on the usefulness of learning by observing experts. The system known as Learning from an Expert strengthens knowledge and memory, and generates confidence in future difficult decisions.

Quick Action Guides

TECH offers the most relevant contents of the course in the form of worksheets or quick action guides. A synthetic, practical, and effective way to help students progress in their learning.

06

Certificate

The Postgraduate Diploma in Patient Blood Management in Surgical Patient guarantees students, in addition to the most rigorous and up to date education, access to a Postgraduate Diploma issued by TECH Technological University.

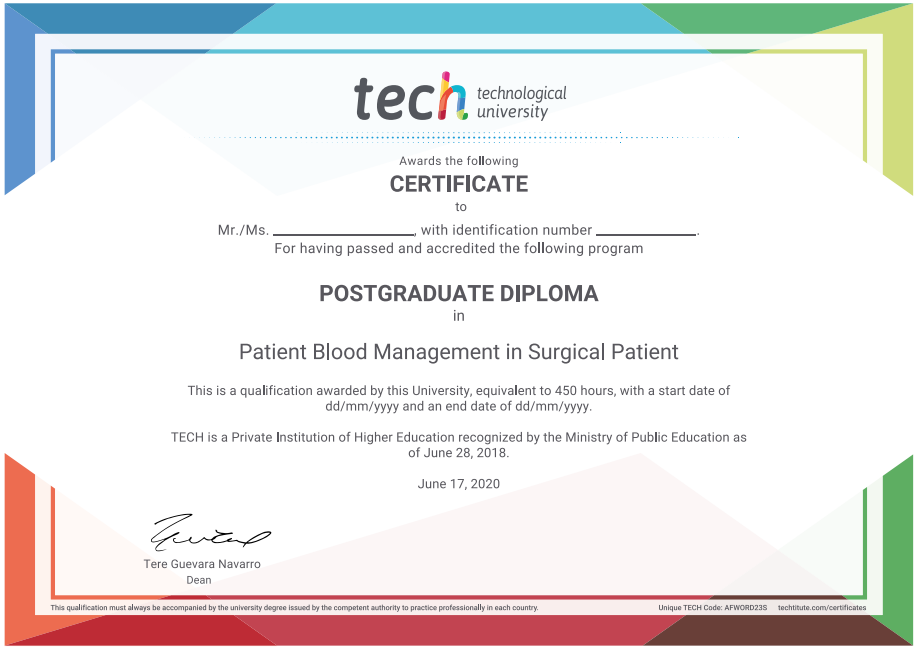
Successfully complete this program and receive your university qualification without having to travel or fill out laborious paperwork"

This **Postgraduate Diploma in Patient Blood Management in Surgical Patient** contains the most complete and up-to-date scientific program on the market.

After the student has passed the assessments, they will receive their corresponding **Postgraduate Diploma**, issued by **TECH Technological University** via tracked delivery*.

The certificate issued by **TECH Technological University** will reflect the qualification obtained in the Postgraduate Diploma, and meets the requirements commonly demanded by labor exchanges, competitive examinations, and professional career evaluation committees

Title: **Postgraduate Diploma in Patient Blood Management in Surgical Patient**
Official Nº of hours: **450 h.**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Awards the following

CERTIFICATE

to

Mr./Ms. _____, with identification number _____.

For having passed and accredited the following program

POSTGRADUATE DIPLOMA

in

Patient Blood Management in Surgical Patient

This is a qualification awarded by this University, equivalent to 450 hours, with a start date of dd/mm/yyyy and an end date of dd/mm/yyyy.

TECH is a Private Institution of Higher Education recognized by the Ministry of Public Education as of June 28, 2018.

June 17, 2020

Tere Guevara Navarro
Dean

This qualification must always be accompanied by the university degree issued by the competent authority to practice professionally in each country. Unique TECH Code: AFWORD23S techtitute.com/certificates

*Apostille Convention. In the event that the student wishes to have their paper certificate issued with an apostille, TECH EDUCATION will make the necessary arrangements to obtain it, at an additional cost.

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